

8 7 6 5 4 3 2 1

NOTES:

- ALL FABRICATION WELDING AND INSPECTION TO BE IN ACCORDANCE WITH NAVSEA 0900-LP-014-5010, WELD SIZES BASED ON USE OF AWS A5.1, CLASS E7018 ELECTRODES FOR LC STEEL TO LC STEEL.
- TEMPLATE ALL WORK FROM LCM-B AND EQUIPMENT.
- EQUIPMENT AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH USCG AND ABS REGULATIONS.
- REPAIR ALL PAINT DAMAGED BY THIS INSTALLATION AND PAINT ALL NEW STEEL IN ACCORDANCE WITH U.S. ARMY TECHNICAL BULLETIN TB43-0144.
- MATERIAL ORDERED ON THIS DRAWING IS NOT INTENDED TO BE RESTRICTIVE. SUBSTITUTION OF EQUAL QUALITY MATERIAL MAY BE MADE EXCEPT FOR ITEMS MARKED GFE.
- SLIGHT DEVIATIONS FROM DIMENSIONS SHOWN ARE PERMISSIBLE TO SUIT ACTUAL CONDITIONS FOUND ABOARD THE VESSEL.
- COMPONENTS SHOWN BY SOLID HEAVY LINES ARE NEW AND ARE TO BE INSTALLED IN ACCORDANCE WITH THIS DRAWING. PHANTOM LINES INDICATE EXISTING COMPONENTS INSTALLED BY DRAWINGS REFERENCED AS NOTED.
- PROJECTING CORNERS AND EDGES TO BE WELL ROUNDED OR PADDED TO PROTECT PERSONNEL.
- PIPING SHALL BE SUITABLY SECURED BY PIPE HANGERS TO PREVENT VIBRATION AND PROTECT AGAINST DAMAGE IN ACCORDANCE WITH BUSHIPS 804-1365781.
- PIPING SYSTEMS SHALL BE THOROUGHLY CLEANED BY FLUSHING WITH THE MEDIUM FOR WHICH THE SYSTEM IS INTENDED.
- ALL THREADED PIPE JOINTS SHALL BE ASSEMBLED USING ANTISEIZE TAPE, FIND NO. M-10. PIPING SHALL BE TESTED HYDROSTATICALLY AND ALL JOINTS INSPECTED FOR TIGHTNESS IN ACCORDANCE WITH LCM-B INSTALLATION INSTRUCTIONS 55-1905-217-1. TESTS SHALL BE CONDUCTED PRIOR TO PAINTING.
- REGULATOR, FIND NO. V-1, TO BE FACTORY PRESET AT 1500 PSI RELIEF AND AT 10 GAL/MIN REGULATED FLOW.
- LOOKING INBOARD, PORT AND STBD ENGINES, HANDLE OF V-2 WILL POINT FORWARD FOR RAMP SYSTEM. FOR BILGE SYSTEM, HANDLE OF V-2 WILL POINT DOWN ON STBD ENGINE AND UP ON PORT ENGINE.
- PIPES OR HOSES OBSCURED BY FLOOR PLATING OR ENGINE ROOM EQUIPMENT SHALL BE IDENTIFIED BY (COPPER, BRASS, CRES) TAGS IN ACCORDANCE WITH MIL-STD-130. TERMINATIONS AND USE SHALL BE CLEAR.

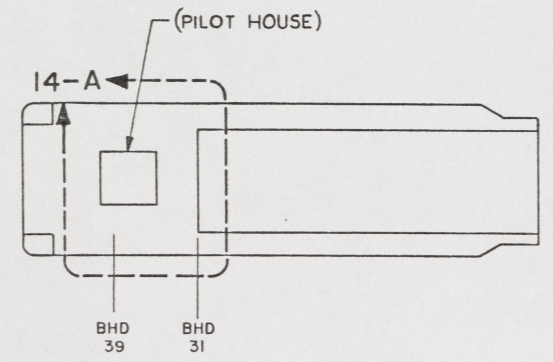
REFERENCE DRAWINGS
APPLICABLE TO HULL NUMBERS 8540 THRU 8560 AND 8580 THRU 8618

NO.	DRAWING NO.	TITLE
1	13226E9456	LCM-B, MOD-1, MODIFICATION BILGE PIPING SYSTEM
2	13226E9466	LCM-B, MOD-1, MODIFICATIONS TO RAMP HYDRAULIC SYSTEM
3	13226E9461	LCM-B, MOD-1, MODS TO HYD PWR STEERING SYSTEM
4	516-4510941	LCM-B, MOD-1, RAMP HYDRAULIC SYSTEM
5	13226E9467	LCM-B, MOD-1, MODS TO HYDRAULIC RESERVOIR, RAMP/HYDRAULIC START

REFERENCE DRAWINGS
APPLICABLE TO HULL NUMBERS 8520 THRU 8539

NO.	DRAWING NO.	TITLE
1	13229E2253	LCM-B, MOD-1, MODIFICATION BILGE PIPING SYSTEM
2	13226E9466	LCM-B, MOD-1, MODIFICATIONS TO RAMP HYDRAULIC SYSTEM
3	13229E2251	LCM-B, MOD-1, MODS TO HYD PWR STEERING SYSTEM
4	516-2534229	LCM-B, MOD-1, RAMP HYDRAULIC SYSTEM
5	13226E9467	LCM-B, MOD-1, MODS TO HYDRAULIC RESERVOIR, RAMP/HYDRAULIC START

STATUS OF REVISIONS				
SH	NO	DATE	DESCRIPTION	APPROVED
2	A	15 NOV 88	SEE ECP NO. 90HE3102 AND 90HE3103	(Signature)



KEY PLAN 6-B
SCALE NONE

THIS DRAWING APPLIES TO HULL NUMBERS 8520 THROUGH 8560 AND 8580 THROUGH 8618 ONLY

GFE	V-2	98991	1 1/2-DH46YBSEVI	2	DIRECTIONAL BALL VALVE, 1 1/2"	(WORCISTER)	COHL	
GFE	V-1	96259	2FAB6-R 12T-12T-12T 25 S	2	BYPASS FLOW REGULATOR, 3/4"	(FLUID CONTROLS)	COHL	(SEE NOTE 12)
YARD	M-10		SIZE II	AR	TAPE, ANTISEIZE (SEE NOTE 11)		MIL-T-27730	
YARD	M-9		MS51922-17	8	NUT, HEX, SLFLKG, 3/8-16 UNC-2B			STEEL
YARD	M-8		MS27183-14	8	WASHER, .406 ID X .812 OD X .065 THK			STEEL
YARD	M-7		MS90725-62	8	SCREW, CAP, HEX HD, 3/8-16 UNC-2A X 1 1/4" L			STEEL
YARD	M-6			8	PLATE, 3/8" THICK X 8" X 32"		ASTM A36	STEEL
YARD	M-5	24161	12C1T-12RFJX-228	1	HOSE ASSY, 3/4" SIZE, W/SAE 37° SWIVEL, FEM, 228" L (GATES)		COHL	
YARD	M-4	24161	12C1T-12RFJX-204	1	HOSE ASSY, 3/4" SIZE, W/SAE 37° SWIVEL, FEM, 204" L (GATES)		COHL	
YARD	M-3	24161	12C1T-12RFJX-36	1	HOSE ASSY, 3/4" SIZE, W/SAE 37° SWIVEL, FEM, 36" L (GATES)		COHL	
YARD	M-2	24161	12C1T-12RFJX-42	1	HOSE ASSY, 3/4" SIZE, W/SAE 37° SWIVEL, FEM, 42" L (GATES)		COHL	
GFE	M-1	76122	NO. 27805	2	1 1/2" X 2" PUMP W/HYD MOTOR (MP PUMPS)		COHL	VARIOUS
YARD	F-14			1	ELBOW, 90°, STREET, 1 1/4" NPS, THREADED, CL 150		ANSI B16.3	MI
YARD	F-13			1	ELBOW, 90°, 1 1/4" NPS, THREADED, CL 150		ANSI B16.3	MI
YARD	F-12			1	TEE, 1 1/4" NPS, THREADED, CL 150		ANSI B16.3	MI
YARD	F-11			1	TEE, 1 1/4" X 3/4" X 3/4" NPS, THREADED, CL 150		ANSI B16.3	MI
YARD	F-10	30780	12C5BU-S	2	ELBOW, STRAIGHT THREAD, W/O-RING, FLARELESS, 3/4" (P.H.)		COHL	STEEL
YARD	F-9	30780	12F50F50-S	2	UNION, STRAIGHT THREAD, W/O-RING, 3/4" (P.H.)		COHL	STEEL
YARD	F-8	30780	12FTX-S	1	CONNECTOR, MALE, 37° FLARED, 3/4" SIZE (P.H.)		COHL	STEEL
YARD	F-7	30780	12HBU-S	2	TEE, 3/4" TUBE X 3/4" IPS FEMALE ON RUN (P.H.)		COHL	STEEL
YARD	F-6	30780	12C5OX-S	2	ELBOW, 90°, STRAIGHT THREAD, W/O-RING, 37° FLARE, 3/4" (P.H.)		COHL	STEEL
YARD	F-5	98660	PF101-24-20	4	1 1/2" TO 1 1/4" REDUCER BUSHING (FLODAR)		COHL	STEEL
YARD	F-4	98660	PF101-24-12	2	1 1/2" TO 3/4" REDUCER BUSHING (FLODAR)		COHL	STEEL
YARD	F-3			1	1 1/4" UNION, THREADED, CL 150		ANSI B16.39	MI
YARD	F-2	30780	12CTX-S	5	ELBOW, 90°, MALE, 37° FLARED, 3/4" SIZE X 3/4" IPS (P.H.)		COHL	STEEL
YARD	F-1	30780	12F5BU-S	2	CONNECTOR, STRAIGHT THREAD, W/O-RING, FLARELESS, 3/4" (P.H.)		COHL	STEEL
YARD	P-2			AR	TUBING, 3/4" OD X .049 WALL		SAE J525	STEEL
YARD	P-1			AR	PIPE, 1 1/4" BLACK, SEAMLESS, SCHED 40		ASTM A53	STEEL

UNLESS OTHERWISE SPECIFIED DIM/TOLERANCES ARE: .001 IN.

ONE PLACE (1 X) : ± .001 IN.
TWO PLACE (2 X) : ± .0005 IN.
THREE PLACE (3 X) : ± .0002 IN.
ANGLES : ± .001 IN.

THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING
FOR INTERPRETATION OF DRAWING DIMS STD 100 APPLIES
REMOVE CORNERS AND BREAK SHARP EDGES
SHARP EDGES : TO
FILLET RADIUS : TO

MATERIAL

DESIGN APPROVAL
DATE: 15 NOV 88
APPROVED FOR PURCHASEMENT
DATE: 15 NOV 88

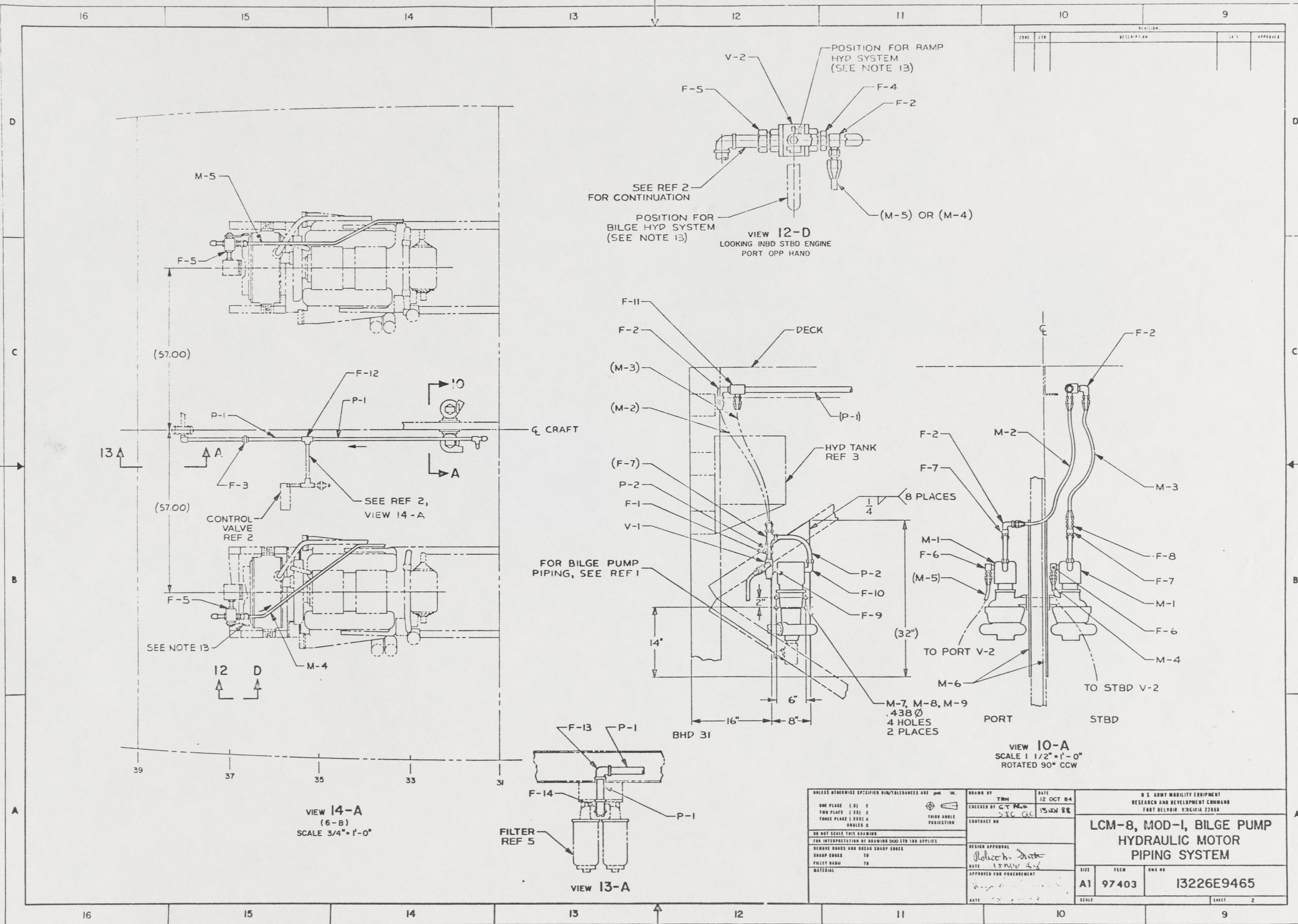
U.S. ARMY MOBILITY EQUIPMENT
RESEARCH AND DEVELOPMENT COMMAND
FORT BELVOIR, VIRGINIA 22060

LCM-8, MOD-1, BILGE PUMP
HYDRAULIC MOTOR
PIPING SYSTEM

SIZE: A1
ISCM: 97403
DWG NO: 13226E9465
SCALE: 3"=1'-0"
SHEET 1 OF 2

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8 7 6 5 4 3 2 1



ZONE	LTN	REVISION	DATE	APPROVED

VIEW 14-A
(6-B)
SCALE 3/4" = 1'-0"

VIEW 13-A

VIEW 10-A
SCALE 1 1/2" = 1'-0"
ROTATED 90° CCW

UNLESS OTHERWISE SPECIFIED DIM/TOLERANCES ARE IN INCHES		DRAWN BY	DATE	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, COLORADO 80205	
ONE PLACE (0.1)	±	TRM	12 OCT 84	LCM-8, MOD-1, BILGE PUMP HYDRAULIC MOTOR PIPING SYSTEM	
TWO PLACE (0.01)	±	CREATED BY	15 NOV 84		
THREE PLACE (0.001)	±	SIC	GC	SIZE	
FOUR PLACE (0.0001)	±	CONTRACT NO.		A1 97403	
DO NOT SCALE THIS DRAWING		DESIGN APPROVAL		DWG NO.	
THE INTERPRETATION OF DIMENSIONS DOES NOT APPLY		DATE		13226E9465	
REMOVE BURRS AND BREAK SHARP EDGES		APPROVED FOR PROCUREMENT		SCALE	
SHARP CORNERS TO		DATE		SHEET 2	
FILLET RADIUS TO					
MATERIAL					

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